

REMARKS

Claims 1, 3, 7, 9, 11, 12, 14, 18, 20-27, 29-35, 37, 38, 42, 47, 51, 53, 56-60, 62-65, and 67 have been amended and claims 8, 19, 28, 36, 43, 52, 61, and 66 have been cancelled. Accordingly, claims 1-7, 9-18, 20-27, 29-35, 37-42, 44-51, 53-60, 62-65, and 67-69 remain pending.

The Examiner has objected to claims 3, 14, 23, 42, 51, and 60 under 37 C.F.R. 1.75 because of informalities which have been corrected per the Examiner's suggestions.

The Examiner has rejected claims 11, 31, and 33-37 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that these claims lack antecedent basis for various terms. Antecedent basis has been provided for each of the claim terms noted by the Examiner. Accordingly, it is submitted that the claims comply with the requirements of 35 U.S.C. §112.

The Examiner has rejected claims 21-31 and 56-64 under 35 U.S.C. §101 as describing a computer program per se. These claims have been amended to recite "At least one computer readable storage medium having computer program instructions stored thereon that are arranged to perform" particularly specified operations. It is respectfully submitted that a computer readable storage medium that stores specifically configured program instructions is patentable subject matter and meets the requirements of 35 U.S.C. §101.

The Examiner has indicated that claims 4-9, 15-20, 39, 43, 44, 46, 48, 52, 53, 55, 66, 67, and 69 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, independent claims 38, 47, 56, and 65 have been amended to incorporate the limitations of allowable claims 43, 52, 61, and 66 (and any intervening claims), respectively. It is noted that claim 61 is identical to allowed claims 43, 52, and 66 and it is assumed that the Examiner meant to deem claim 61 as allowable for the same reasons. It is also noted that claim 61 lacks a specific rejection.

The Examiner rejected claims 1-3, 10, 13, 14, 21-23, 30, and 32 under 35 U.S.C. §102(e) as being anticipated by Soloway et al. (U.S. patent 5,265,092). The Examiner also rejected claims 38, 40-42, 47, 49-51, 56, 58-60, and 65 under 35 U.S.C. §102(e) as being anticipated by Li et al. (cited Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication). The Examiner has also rejected claims 45, 54, 63, and 68 under 35 U.S.C. §103(a) as being unpatentable over Li et al. in view of Fukushima et al. (US 6,049,524). The Examiner's rejections are respectfully traversed as follows.

Claim 1 is directed towards a “method for handling Link State Packets (LSPs) sent between processing nodes within a computer network.” Claim 1 also recites “at a first node, receiving a first LSP sent by a second node, wherein the LSP specifies connectivity information regarding the second node” and “determining whether the first received LSP is an updated LSP even when the first received LSP is considered older than another LSP previously sent by the second node to the first node.” Claim 1 also recites “if it is determined that the first received LSP is an updated LSP, performing updating procedures on LSP information, that is maintained by the first node, based on the first received LSP, wherein the LSP information was obtained from one or more LSPs sent by the second node” and “updating the first node’s routing tables based on the LSP information maintained by the first node after the updating procedures on the LSP information are performed.” Claims 12, 21, and 32 also recites mechanisms for “determining whether the first received LSP is an updated LSP even when the first received LSP is considered older than another LSP previously sent by the second node (or second apparatus) to the first node (or apparatus)” and “if it is determined that the first received LSP is an updated LSP, performing updating procedures on LSP information, that is maintained by the first node (or first apparatus), based on the first received LSP, wherein the LSP information was obtained from one or more LSPs sent by the second node (or second apparatus)” and “updating the first node’s routing tables based on the LSP information maintained by the first node (or apparatus) after the updating procedures on the LSP information are performed.” Embodiments of the present invention allow the first device’s LSP information to be updated based on the received LSP and its routing tables to be updated based on such updated LSP information, even when an LSP is received that is older than a previously received LSP.

The cited reference Soloway is directed towards techniques for preventing loops during a transition period for updating LSP information, as well as for finding a shortest path based on LSP information. See Abstract. To prevent loops, Soloway discloses that when a switch updates its routing tables based on a new received LSP, it continues to discard packets whose path would be affected by the changed routing until all adjacent switches send a “Ready Announcement” indicating that they have also updated their routing tables based on such received LSP. See Col. 3, Lines 8-30. Soloway teaches that the “Ready Announcement identifies a LSP and indicates to all switches that receive it (for example, 4a) that the sender switch (for example, 4b) commits itself to forward all non-discarded packets as if the identified LSP is currently in the sender’s LSP database.” See Col. 11, Lines 18-22. Importantly, Soloway indicates in a number of places that LSP information is only updated based on a new LSP, as opposed to an older LSP. See, for example, Col. 12, Lines 16-29 and Lines 26-29. When each Ready Announce for a particular LSP is received at a switch that requested such Ready Announcements be sent, the receiving switch updates bits for each “ready” switch (step 92 of Fig. 10). After all bits are set for each

switch, the receiving switch can then quit discarding packets for such LSP (step 108 of Fig. 10). See generally, Fig. 10. This cited section also appears to be based on only newly received LSP's. See Col. 21, Lines 49-53 (emphasis added): "Ready Announcement must be sent upon completion of any Forwarding Table computation that uses a new LSP, even if only the sequence number of the LSP has changed." Although these cited techniques appear to teach mechanisms for preventing a loop, Soloway appears to not teach updating LSP information based on a received LSP, even when such received LSP is older than a last previously received LSP, and then updating routing tables based on such updated LSP information, in the manner claimed. Accordingly, it is submitted that claims 1, 12, 21, and 32 are patentable over Soloway. It is noted that the rejections (and cited art Li et al. and Fukushima et al.) of claims 38, 47, 56, and 65 are moot in view of the amendments to incorporate allowable subject matter.

The Examiner's rejections of the dependent claims are also respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-7, 9-11, 13-18, 20, 22-27, 29-31, 33-35, 37, 39-42, 44-46, 48-51, 53-55, 57-60, 62-64, and 67-69 each depend directly or indirectly from independent claims 1, 12, 21, 32, 38, 47, 56, or 65, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 1, 12, 21, 32, 38, 47, 56, or 65. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. If the Examiner believes that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number listed at the bottom of this page.

Respectfully submitted,
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